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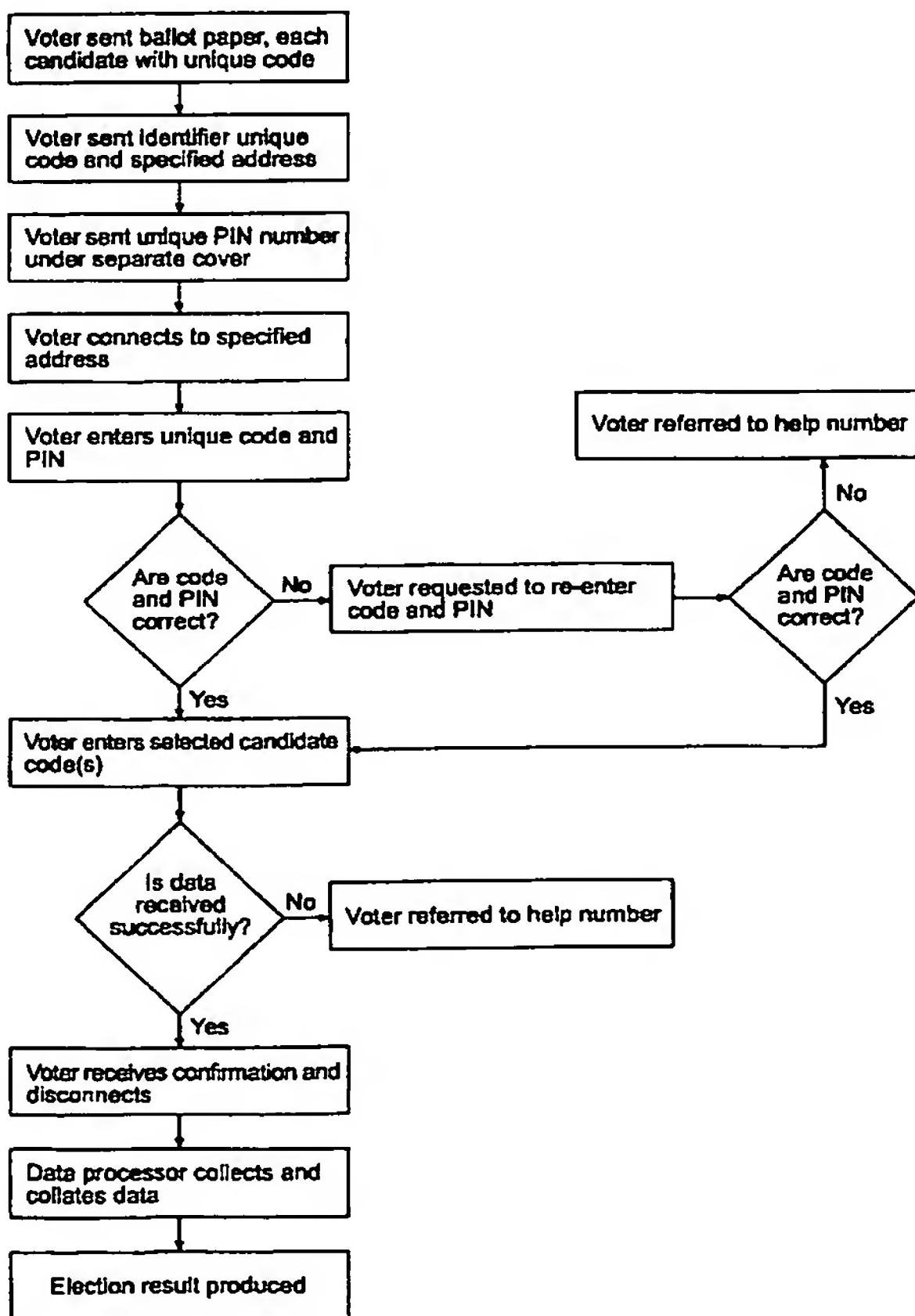
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[Continued on next page]

(54) Title: METHOD FOR COLLECTION AND COLLATION OF DATA



(57) Abstract: The invention provides a method of collecting and collating data including the steps of: a) providing each user with an option or question paper where each option or question has a unique transmittable signal or code; b) assigning each user with a unique transmittable signal or code; c) assigning each user a specified address for receiving information to be transmitted by the user by any telecommunications means, or any other means for the transmitting and/or receiving of any signal or code; d) instructing the user to connect to the said specified address and enter the user signal or code, and signal or code or signals or codes for the selected options or questions (the data); e) receiving the entered user data; and f) processing and/or collating some or all of the user data. A computerised data processor is preferably used for receiving and processing the data. The method is particularly suitable for conducting an election, and the preferred telecommunication means is the telephone. Preferably voter identity checks and checks for multiple voting are provided for.

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Field of Invention

5 This invention relates to a method for the collection and subsequent collation of information, and in particular relates to a method for the collection and collation of information from individuals or collectives and conveyed by way of a telecommunications link to a specified receiving address in such as a census, a survey, a referendum, an election or the like.

10

Background

It is well-known that situations arise where it becomes necessary to receive information from a number of individuals or collectives, and where it is desirable for that information to be efficiently collated for the purpose of achieving a result, or 15 some statistical knowledge. For example, it is the practise of many governments to conduct a census of the citizens of their country for the purposes of planning for the future. Referenda are often conducted by governments or organisations and it is well-known to survey a sample of the population by way of polls and the like to obtain a consensus of opinion.

20

One of the most important events in any country is the conduction of a general election to determine the government for the country, and in most countries and communities the need to elect representatives at all levels of governance is a regular occurrence. Election of representatives, especially at government level, requires 25 receiving and counting the votes of all eligible citizens, and can be an enormous exercise in logistics with respect to providing the means for the votes to be made, and subsequently collating, counting and recording the results of the voters' preferences.

In addition, any voting process, referendum, census, survey or the like, must usually 30 be organised in such a way that it is open, yet secure, and ensures the secrecy of the recorded information. A means should be incorporated for detecting and invalidating the votes of voters who attempt to vote more than once. Usually, in an election, the progress of the results should not be available until such time as the ballot has closed

and voting is complete. However, thereafter it is desirable that a count can be completed as rapidly and accurately as possible.

The process of voting, to date, usually requires voters to attend at designated voting sites, where votes are recorded by way of marking each voter's preference(s) on a prepared voting card or sheet. Prior to the vote being made the voter is identified on an electoral roll, and if that voter attempts to make a second vote this can be traced and the votes consequently invalidated. The cards or sheets are then collected and counted after the ballot has ended. Alternatively voters may be posted ballot papers for completion and return by mail. The tasks of vote counting, and voter identification are laborious and expensive, and are not as accurate as is desirable.

In addition, many votes are not recorded because voters cannot or do not, for a variety of reasons, make their way to the designated voting sites, in spite of the fact that in any election it is always a priority to maximise voter turn-out.

Object

It is an object of the present invention to address the foregoing identified problems, or at least to provide the public with a useful choice.

It is a further object of the invention to provide an improved method for collecting and collating data by way of a telecommunications link, or any other means for the transmitting or receiving of any signal or code, from individuals or collectives to a receiving address or central collecting agency in such as a census, a survey, a referendum, an election or the like.

It is a further object of the invention to provide a telecommunications system in association with a data processing system which is networked and adapted for use in the above improved method of collecting and collating data.

Statement of Invention

According to a first aspect of the invention there is provided a method of collecting and collating data including the steps of:

- a) providing each user with an option or question paper where each option or question has a unique transmittable signal or code;
- b) assigning each user with a unique transmittable signal or code;
- c) assigning each user a specified address for receiving information to be transmitted by the user by any telecommunications means, or any other means for the transmitting and/or receiving of any signal or code;
- d) instructing the user to connect to the said specified address and enter the user signal or code, and signal or code or signals or codes for the selected options or questions (the data);
- e) receiving the entered user data; and
- f) processing and/or collating some or all of the user data.

According to a second aspect of the invention there is provided a method of voting including the steps of:

- a) providing each voter with an option paper wherein each option has a unique transmittable signal or code;
- b) assigning each voter a unique transmittable signal, code, or identifier;
- c) assigning each voter a specified address for receiving information to be transmitted by the voter by any telecommunications means, or any other means for the transmitting and/or receiving of any signal or code;
- d) instructing the voter to connect to the said specified address and enter the voter signal or code, and signal or code or signals or codes for the selected option or options (the data);
- e) receiving the entered voter data; and
- f) processing and/or collating some or all of the voter data.

Preferably each voter or user is additionally supplied with a unique transmittable PIN number which must be entered in addition to the unique voter transmittable signal or code.

Preferably the user or voter data is processed by a centralised computer data processing system.

- 5 Preferably the data processing system is enabled to generate a response on completion of the entry of data by the user or voter, to confirm that the data has been processed and the user or voter may now disconnect.

10 Preferably the data processing system is adapted to identify the incorrect matching of an entered PIN number with the user or voter unique transmittable signal or code, and to generate a response requesting the re-entry of the unique transmittable signal or code, and the PIN number.

15 Preferably the data processing system is adapted to recognise when a user or voter unique transmittable signal or code is entered more than once for the purposes of re-entering selected options or voting more than once, and to invalidate all data entered at any time by that user or voter.

20 Preferably a summary of all, or selected portions of the received user or voter data is produced.

25 Preferably the user or voter signal or code, and the signal or code, or signals or codes for the selected option or options are entered such as to embrace the selection interactively, manually or via fixed or dynamically allocated means and processes;

Prefeably the user or voter data and selected options are received and recorded manually, interactively, and/or via any automated process.

30 By specified address is meant any receiving address to which the user or voter may connect to transfer, by the appropriate telecommunication means, the user or voter signal, code or identifier, and signals or codes for the selected option or options, and if required, the unique transmittable PIN number.

In one embodiment of the invention the telecommunication means is a telephone and the specified address is a telephone number.

- 5 In another embodiment of the invention the telecommunication means is the internet by way of computer, internet enabled phone or interactive TV access, and the specified address is an email address, or website or other suitable receiving site.

10 In another embodiment of the invention the telecommunication means is networking-enabled phones and the specified address is a unique address made available by the service provider.

15 In another embodiment of the invention the telecommunications means is a voice activated computer enabled to communicate the voice activated selected option to the specified receiving address which may be an email address, website or other suitable receiving site.

20 It will be appreciated that while the above known means of telecommunication have been provided by way of example, that any means which enables data to be entered at one location for telecommunication to a receiving address is envisaged as within the scope of the invention. It will be further appreciated that as technology advances other suitable telecommunications means may be developed including any method for the transmitting or receiving of any signal or code. The method of the invention is not to be limited to only those telecommunication means presently available, but is 25 intended to encompass any and all appropriate and relevant advances in technology.

30 It is envisaged for example that included within the scope of the invention are all card based applications, interactions and procedures via any communications method whatsoever. This includes magnetic swipe cards, smart cards, chip cards of any sort, transponders or any integrated circuit, RF circuit, micro-processor, stored memory, inducted loop process or technology, any transmitter or receiver process inclusive of bar code, infra-red or laser reader, writer or transmitter.

The means of communications transfer are envisaged as including existing fixed line telecommunications, mobile, cellular, satellite, microwave, radio frequency, or laser transmission or reception. Suitable mediums may include telephonic communications 5 of any sort, copper, xDSL, ADSL, fibre optic, satellite of any sort, cards of any sort, card reader or writer, Point Of Sale (POS), kiosk, internet or personal data transmitter or receiver.

10 The process of data transmission is envisaged as including any circuit based or packet switching process of any kind.

It should also be appreciated that the method of this invention may be used in association with previously known methods of receiving and recording information, or previously known systems of voting, as, for example, in situations where a 15 referendum, or election is conducted and where some of the users or voters do not have access to the telecommunications systems required to use the method of the invention.

In addition it should be appreciated that the method of the invention may incorporate 20 the use of one, or any number of the above-mentioned means for the telecommunication of data in any one election, referendum, survey, census or the like.

While the following description of the invention specifically relates to voters in a general election it will be appreciated that this is by way of example only, and the 25 method of the invention may similarly be applied to the responding by individual or collective users to other forms of survey or questionnaire such as those described above, and the method of the invention is not to be construed as limited to the recordal of votes in an election.

30 **EXAMPLE**

In this example the method of the invention enables the individual voter to participate in an election from the privacy of their own homes, or any publicly available

appropriate telecommunications system. The option for most voters to vote without having to leave home should have the desired effect of enhancing voter turn-out.

It will be appreciated that the uniquely specified addresses to which data is sent will
5 be connected to a computer data processing system which has the appropriate software and hardware for receiving the data, collating, sorting and counting votes, and producing summary results as required. In addition the data processing system should preferably be enabled to generate a response to the voter after all the data has been entered to confirm that the data has been processed, and that the voter may disconnect.

10

The use of a voter signal or code unique to each voter can be readily used to identify any voters who attempt to vote more than once. It is a relatively simple matter, when information is received and processed electronically, to adapt systems to receive information from a signal or coded source once, and once only, and to thereafter
15 extinguish that signal or code so that any subsequent information from that source could not be accepted. Furthermore, any first votes recorded from that source could also be cancelled, should a second attempt to vote by the same voter be detected.

Voter security in this example is guaranteed by way of the voter allocated PIN signal
20 or code. Should any voter fail to supply the correct PIN signal or code allocated to its voter identifying signal or code, no vote would be allowed. Alternatively, if the voter code and PIN number do not match, then in a preferred embodiment of the example a response would be generated requesting that the voter re-enter the voter code and PIN number.

25

Should the laws of the nation or organisation conducting the election allow it, the data processing system of this example would enable progressive counting and reporting on the progress of the election, and as soon as the ballot closes the technology is available to enable an extremely rapid collation, count and reporting of the data
30 received.

It will further be appreciated that the hardware and software for this kind of electronic processing does exist, and can be readily assembled by personnel skilled in this area of computing.

- 5 The preferred example of the invention will now be described by way of example only, in which the forms and instructions referred to are those of Figures 1, 2 and 3.

In this preferred example, preparatory to the voting each eligible voter will be posted an information package which includes:

- 10 • the details of the election to take place;
• an individual voting form, as shown in Figure 1;
• an option form which includes a listing of candidates or options which may be voted for, together with any relevant supplementary information. An example of a suitable form is given as Figure 2;
- 15 • a return envelope for the return of documentation which may be used in the event that a recount is required;
• under separate cover, and after the initial documentation has been posted, but prior to election date, a voter PIN number.
- 20 By way of specific example a voter (John Doe) receives at some time prior to election day, a mail out including the Forms of Figures 1 and 2. The form of Figure 1 provides:
• the voter name, 1;
• the specified address to which voter information is to be sent 2, in this case a telephone number;
- 25 • the voter unique signal or code 3;
• a space for the subsequent addition of a PIN number 4;
• electoral information 5;
• voter information, 6;

30

The form of Figure 2 provides:

- a list of options for voter selection, 7. In this case the options are candidates, but it is envisaged as within the scope of the invention that the options may be of any form, eg choices in a referendum;
 - unique signal or code identifiers for each candidate 8;
- 5 • a space for the voter to record the preferred candidate signal or code 9;
- voter information 10.

Subsequent to the receipt of the above forms a second mail out supplies the voter with information as shown in Figure 3.

10

In this embodiment of the invention Figure 3 is a combined form 11, and set of instructions for voting day 12.

15 In the form 11, the voter is notified of its allocated PIN number (supplied in a separate envelope), and a space 13, in which to record this number. In the information portion 12, instructions 14, for voting day itself are provided.

20 The voter can summarise all the information required for voting, on the form of Figure 1, and in one option of the invention this form may subsequently be returned to the electoral authorities for use in a recount, or as required.

25 The voter is then instructed to connect to the designated telephone number, and enter both its identifying signal or code and linked PIN number, and then the preferred candidate signal or code. The voter then waits to receive confirmation that the information has been successfully processed, and disconnects from the address. Should the voter have incorrectly entered the identifying signal or code and linked PIN number it will receive a response prompting re-entry of the code and PIN. Should there be any error in transmission of the data, so that the required confirmation is not received, the voter is referred to the help desk number 15, given on form of 30 figure 1..

A flow chart describing the sequence of events of the method of the invention is described in Figure 4.

It will be appreciated that various departures and modifications may be made on the
5 aforementioned example without departing from the scope of the invention.

CLAIMS

Claim 1. A method of collecting and collating information data the steps of:

- 5 a) providing each user with an option or question paper where each option or question has a unique transmittable signal or code;
- b) assigning each user with a unique transmittable signal or code;
- c) assigning each user a specified address for receiving information to be transmitted by the user by any telecommunications means, or any other means for the transmitting and/or receiving of any signal or code;
- 10 d) instructing the user to connect to the said specified address and enter the user signal or code, and signal or code or signals or codes for the selected options or questions, (the data);
- e) receiving the entered user data; and
- 15 f) processing and/or collating some or all of the user data.

Claim 2. A method of voting including the steps of:

- a) providing each voter with an option paper wherein each option has a unique transmittable signal or code;
- 20 b) assigning each voter a unique transmittable signal, code, or identifier;
- c) assigning each voter a specified address for receiving information to be transmitted by the voter by any telecommunications means, or any other means for the transmitting and/or receiving of any signal or code;
- d) instructing the voter to connect to the said specified address and enter the voter signal or code, and signal or code or signals or codes for the selected option or options (the data);
- 25 e) receiving the entered voter data and; and
- f) processing and/or collating some or all of the voter data.

- 30 Claim 3. The method of either claim 1 or claim 2 wherein the user or voter is provided with a unique transmittable PIN number which must be entered in addition to the unique user or voter transmittable signal or code.

Claim 4. The method of any one of the preceding claims wherein the user or voter data is processed by a centralised computer data processing system.

Claim 5. The method of any one of the preceding claims wherein after entering 5 all of the user or voter data the user or voter receives a response confirming that the data has been successfully processed and the user or voter may disconnect from the receiving address.

Claim 6. The method of any one of the preceding claims wherein if there is 10 incorrect matching of the user or voter unique transmittable PIN number with the unique transmittable user or voter signal or code the user or voter receives a response requesting the re-entry of the unique transmittable user or voter signal or code and the unique transmittable PIN number.

15 Claim 7. The method of any one of the preceding claims wherein all data entered by a user or voter is invalidated if the user or voter attempts to connect to the specified address more than once for the purpose of re-entering selected options.

Claim 8. The method of any one of claims 1, 3, 4, 5, 6 or 7 wherein at least one 20 summary of some or all of the processed and collated user data and/or selected options is produced.

Claim 9. The method of any one of claims 2, 3, 4, 5, 6 or 7, wherein at least one 25 summary of some or all of the processed and collated voter data and/or selected options is produced.

Claim 10. The method of any one of the preceding claims in which the user or voter signal or code, and the signal or code, or signals or codes for the selected option or options are entered such as to embrace the selection interactively, manually or via 30 fixed or dynamically allocated means and processes.

Claim 11. The method according to any one of the preceding claims in which the user or voter data and selected options are received and recorded manually, interactively, and/or via any automated process.

5 Claim 12. The method of any one of the preceding claims wherein the telecommunication means is a telephone and the specified address is a telephone number.

10 Claim 13. The method of any one of claims 1 to 11 wherein the telecommunication means is the internet by way of computer, internet enabled phone or interactive TV access, and the specified address is an email address, or website or other suitable receiving site.

15 Claim 14. The method of any one of claims 1 to 11 wherein the telecommunication means is networking-enabled phones and the specified address is a unique address made available by the service provider.

20 Claim 15. The method according to any one of claims 1 to 11 wherein the telecommunications means is a voice activated computer adapted to communicate the voice activated selected option to the specified receiving address which may be an email address, website or other suitable receiving site.

25 Claim 16. The method according to any one of claims 1 to 11 wherein the means for the transmitting and/or receiving of any signal or code includes a card, chip or transponder based process inclusive of an appropriate transmitting and/or receiving process.

30 Claim 17. The method according to any one of the preceding claims when used in association with any previously known system for voting or for the collection and collation of data.

Claim 18. The method according to any one of the preceding claims where more than one telecommunications means or any other means for the transmitting and receiving of any signal or code is used.

5 Claim 19. A telecommunications system in association with a data processing system which is networked and adapted to perform the method of any one of the preceding claims.

10 Claim 20. A method for collecting and collating information or voting substantially as hereinbefore described with reference to the accompanying drawings.

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By their Authorised Attorneys
15 PIPERS**



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1	3	4	5	2	5
<p>John Doe Your telephone booth number is: 04 568 578 373 Please dial 04 568 578 373 followed by the following numbers: 123 456 789 001 0 (Voters PIN) 0001 00012 (Candidates unique numbers <small>Electoral voter's unique number (e.g. tax number)</small> <small>Electoral Code</small> <small>Electorate number</small> <small>Candidates unique numbers</small> </p>					
<p>If you have entered all the above numbers correctly your vote will be registered and counted.</p> <p>Did you receive confirmation that your vote has been registered YES / NO. If YES you need do no more.</p> <p>If NO please phone the following Help Desk Number: 04 568 578 374</p> <p>N.B. YOU CAN CAST YOUR VOTE BY TELEPHONE ANYTIME FROM: 9.00 a.m. on Thursday November 16, TO: 7.00 p.m. on Saturday November 17.</p>					

FIGURE 1

CANDIDATES:		
Candidate Number	Candidate Name	Party Membership
000001	Jane Doe	Republican
000002	Michael Dukakis	Labour
000003	John Anyone	National
000004	Betty Clinton	Democrat

8. Enter the number of your candidate here: (_____)

Are you sure that that is the correct number YES / NO

10. If NO re-enter correct number

If YES then transfer this number to your voting sheet in the brackets MARKED CANDIDATES UNIQUE NUMBER.

FIGURE 2

13

11

Enter your PIN number which arrived in a separate envelope in the following space: (- - - -)

Are you sure this is the correct number, YES / NO
If NO re-enter correct number

If YES then transfer this number to your voting sheet in the brackets MARKED VOTERS PIN.

Your voting slip is now ready for your voting to be registered.
Is this the designated voting day, YES / NO

If NO then wait until the designated voting day has arrived

If YES then proceed to register your vote.

1. Telephone (Television or Computer) connect to your local polling booth phone number

2. Phone the polling booth number listed on your voting form and then enter the full list of numbers listed on your voting form in the order they appear.

12 3. Wait to listen for confirmation that your vote has been successfully registered.

4. Hang up. Your vote has been cast and will be counted for your selected candidate.

IF YOU DID NOT RECEIVE CONFIRMATION THEN YOU SHOULD CALL THE HELP LINE NUMBER LISTED ON YOUR VOTING FORM.

5. If you have been instructed to return your voting papers then place them in the envelope supplied, seal the envelope and post back to the electoral authority.

NO STAMP REQUIRED.

THANK YOU FOR VOTING AND HELPING TO MAINTAIN OUR DEMOCRACY

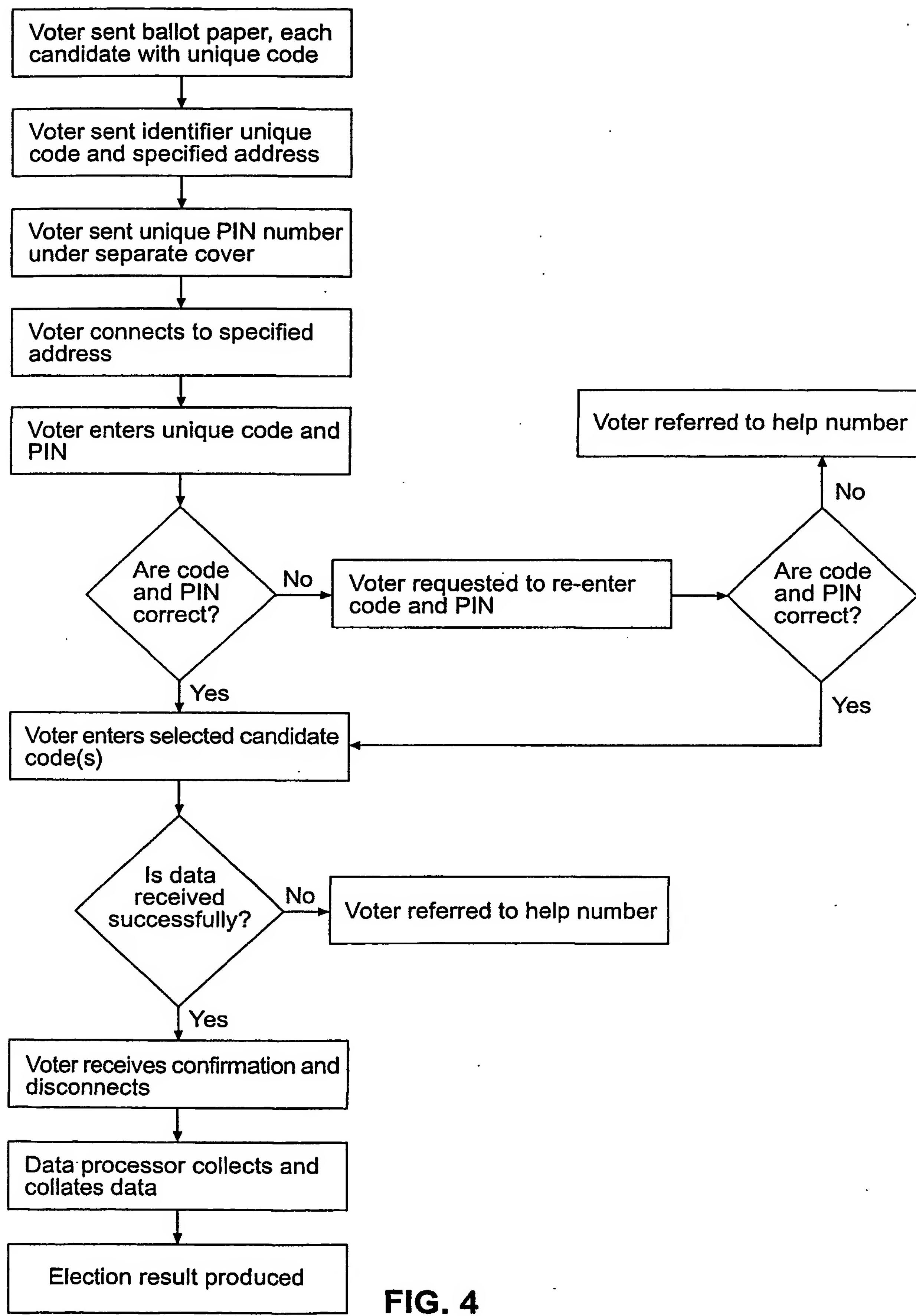


FIG. 4

INTERNATIONAL SEARCH REPORT

International application No.

PCT/NZ01/00238

A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl. ?: G06F 17/60

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G06F 17/60 19/00 AND KEYWORDS: VOTE, ELECTRONIC, COUNT, CODE AND SIMILAR TERMS

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPAT

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6081793 A (Challener et al.) 27 June 2000 Abstract; Figure 1A	1-20
X	US 5898399 A (Peralto) 2 March 1999 Abstract; column 3, lines 44-46; column 5, lines 16-21	1-20
X	US 6021200 A (Fischer) 1 February 2000 Column 1, lines 9-17 and lines 40-53; column 3, lines 20-55	1-20

Further documents are listed in the continuation of Box C See patent family annex

* Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent but published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)		document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means		
"P" document published prior to the international filing date but later than the priority date claimed	"&"	

Date of the actual completion of the international search
21 December 2001Date of mailing of the international search report
- 4 JAN 2002Name and mailing address of the ISA/AU
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INTERNATIONAL SEARCH REPORT

International application No.

PCT/NZ01/00238

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Derwent Abstract Accession No. 1999-454220, JP 11191131 (YAMAHA CORP.) 13 July 1999 Abstract	1-20

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/NZ01/00238

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report			Patent Family Member			
US	6081793	NONE				
US	5878399	NONE				
US	6021200	CN 1151554 JP 9179923	EP 763803 ZA 9607111		FR 2738934	
JP	11191131	NONE				

END OF ANNEX